



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,760	06/27/2003	Marc Andre Boillot	CE10967JI016 Boillot, Mar	7406
24273 7590 09/26/2007 MOTOROLA, INC INTELLECTUAL PROPERTY SECTION LAW DEPT 8000 WEST SUNRISE BLVD FT LAUDERDAL, FL 33322			EXAMINER WOZNIAK, JAMES S	
			ART UNIT 2626	PAPER NUMBER
			MAIL DATE 09/26/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/607,760	Applicant(s) BOILLOT ET AL.	
	Examiner James S. Wozniak	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In response to the office action from 2/13/2007, the applicant has submitted an amendment, filed 7/13/2007, amending independent claims 1, 10, and 17, while arguing to traverse the art rejection based on the limitation regarding an audio loopback path that plays back a speed-varied user's voice during a call to cause the user to adjust his speaking rate (*Amendment, Pages 9-10*). Applicant's arguments have been fully considered, however the previous rejection is maintained, altered with respect to the amended claims and due to the reasons listed below in the response to arguments.
2. In response to amended claim 17, the examiner has withdrawn the previous claim objection directed towards minor informalities.

Response to Arguments

3. Applicant's arguments have been fully considered but they are not persuasive for the following reasons:

With respect to **claims 17-22**, the applicant argues that the amended claims overcome the previous 35 U.S.C. 101 rejection directed towards non-statutory subject matter. In response, the examiner notes that although amending the claim to include a "storage device" rather than the

Art Unit: 2626

previous “computer readable medium” that includes non-tangible computer readable mediums would overcome the 35 U.S.C. 101 rejections, the term “program storage device” is not defined in the specification, thus raising an issue of new matter. The term “tangibly embodied” is also not defined in the specification. Although computer readable mediums are defined in the specification that can be considered to have program instructions “tangibly embodied” thereupon, such a term is not used to describe encoding a program upon a computer readable medium. Since the only tangible medium disclosed by the specification is a “floppy disk” (*Page 8*), the examiner recommends amending claim 17 to state –A floppy disk containing programming instructions-- to overcome the new matter rejection.

The applicant’s arguments with respect to amended claim 1 and 17 (*Rayskiy (U.S. Patent: 6,278,387) fails to teach feeding back a user’s voice during a call, Amendment, Page 9*) are moot with respect to the new grounds of rejection, necessitated by the amended claims and in view of Okuda et al (*U.S. PG Pub. 2004/0179676*).

With respect to **Claim 10**, the applicant argues that Okuda fails to teach causing a telephone party talking at an undesired rate to alter his speaking rate (*Amendment, Page 9*). The applicant argues that Okuda does not provide this teaching because Okuda attempts to mask sidetone signals and never describes altering or attempting to alter the speaking rate of the party on the other end of the call (*Amendment, Page 9*). In response the examiner notes that although Okuda does feature echo cancellation, Okuda notes that a sidetone can be reduced and is still audible to a telephone user (*Paragraph 0039*). This reduced sidetone further undergoes voice speed conversion and is fed back to a user (*Paragraphs 0041 and 0046*), wherein they would

Art Unit: 2626

hear their own speed-adjusted voice. Thus, Okuda describes the loopback path corresponding to the one recited in the presently claimed invention.

In response to the applicant's argument that Okuda does not impose or cause a user speaking at an undesirable rate to alter their talking rate (Amendment, Pages 9-10), the examiner points out that this argument as well as the corresponding amended claim limitation are directed towards the intended result of the claimed invention. According to MPEP 2111.04: "Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure." In the present case, "to impose an altered talking rate on the first user when the first user is speaking at an undesired talking rate" is an intended result that flows naturally from the optional loopback path structure that includes a rate adjustment (*i.e.*, "*wherein*" is claimed, not --a loopback path that includes--). Okuda teaches a rate adjustment in a loopback path (*Fig. 3, Element 5*), which allows a user to hear their speed-adjusted voice, as noted above. In the applicant's admitted prior art (*specification, Page 1*), it is noted that "it is known in speech communication research that a talking individual establishes a speaking rate based on the hearing of his or her own speech which conforms to this internal comfort speaking rate" and "by adjusting the feedback speech rate between what the speaker is saying and what the speaker hears himself saying, it is possible to psychologically coerce the speaker to change their speaking rate". Thus, it is inherent that a user hearing their rate-adjusted voice would be naturally compelled to adjust their own rate. Since Okuda teaches a sidetone loopback that allows a user to hear a speed-adjusted version of their voice, it would inherently flow naturally from this structure that a user would be imposed to alter their speaking rate. Thus, in Okuda, a user could

Art Unit: 2626

speed-adjust an undesired conversational rate, including themselves, using the disclosed voice-speed converting unit.

The dependent claims further limit rejected independent claims, and thus, remain rejected for at least the above noted reasons.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. **Claims 17-22** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the term “program storage device” is not defined in the specification, thus raising an issue of new matter. Although the specification describes the storage of computer programs on a “computer readable medium”, the term “program storage device” is not used to define these mediums. Also, the term “tangibly embodied” is not defined in the specification. Although computer readable mediums are defined in the specification that can be considered to have program instructions “tangibly embodied” thereupon, such a term is not used to describe encoding a program upon a computer readable medium. Since the only tangible medium disclosed by the specification is a “floppy disk” (*Page 8*), the examiner recommends amending

Art Unit: 2626

claim 17 to state --A floppy disk containing programming instructions-- to overcome this new matter rejection.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1-2, 10-13, and 17-18, and 20** are rejected under 35 U.S.C. 102(e) as being anticipated by Okuda et al (*U.S. Patent App. Publication: 2004/0179676*).

With respect to **Claim 1**, Okuda discloses:

An audio input module for receiving audio from a user speaking at an undesired speaking rate (*microphone in a telephone handset of a calling party, Paragraph 0034*);

An audio output module for rendering audio to the user (*loudspeaker in a telephone handset of a calling party, Paragraph 0034*);

An audio loopback path to present audio from the audio input module to the audio output module so as to be heard by the user during the call between the user and another party (*reduced sidetone signal played to a calling party during a telephone conversation, Paragraph 0039 and 0044; and Fig. 3*); and

Wherein the audio loopback path presents audio at a loopback rate depending upon a selectable rate variable to impose an altered talking rate on the user speaking at the undesired speaking rate (*structure for setting a desired voice speed conversion in a loopback path, Paragraphs 0041-0042 and Fig. 3, Element 5, that would include the user's reduced sidetone signal. Since the teachings of Okuda meet the loopback structure required by the claimed invention, it would inherently flow naturally from the teachings of Okuda that a user would be imposed to adjust their conversation speaking rate because they would be hearing their rate-adjusted voice as is also recited in the claimed invention (i.e., claimed intended result that flows from the claimed loopback path with a rate adjustment).*).

With respect to **Claim 2**, Okuda further discloses:

The audio input module receives speech audio at a given speaking rate and wherein the loopback rate alters the speaking rate in the audio loopback path (*user reduced sidetone is rate-adjusted, Paragraphs 0039-0041; and Fig. 3, Element 5*).

With respect to **Claim 10**, Okuda discloses:

A first handset for use by a first user (*telephone handset of a calling party, Paragraph 0034*);

A second handset for use by a second user, wherein audio captured from the first user at the first handset is presented to the second user at the second handset through a communication infrastructure (*telephone handset of a called party, 0034-0037; and telephone communication infrastructure, Paragraphs 0035 and 0040; and Fig. 3*);

Wherein the audio captured from the first user at the first handset is also presented to the first user through a loopback path to an earpiece in the first handset during a call between the

first handset and the second handset (*reduced sidetone signal played to a telephone calling party, Paragraphs 0039 and 0044*); and

Wherein the loopback path includes a loopback rate for speech audio with a selectable rate variable to impose an altered talking rate on the user speaking at the undesired speaking rate (*structure for setting a desired voice speed conversion in a loopback path, Paragraphs 0041-0042 and Fig. 3, Element 5, that would include the user's reduced sidetone signal. Since the teachings of Okuda meet the loopback structure required by the claimed invention, it would inherently flow naturally from the teachings of Okuda that a user would be imposed to adjust their conversation speaking rate because they would be hearing their rate-adjusted voice as is also recited in the claimed invention (i.e., claimed intended result that flows from the claimed loopback path with a rate adjustment).*).

With respect to **Claim 11**, Okuda further discloses:

User interface for selectively adjusting the selectable rate variable (*user control unit for setting a voice speed, Paragraph 0034*).

With respect to **Claim 12**, Okuda further discloses:

A memory location to store a rate variable for a given user (*user rate adjust microcomputer that would inherently require some type of storage of a user-selected playback rate in order to process speech samples, Paragraph 0034*).

With respect to **Claim 13**, Okuda discloses the second handset as applied to Claim 10 and the user rate adjust microcomputer as applied to Claim 12.

With respect to **Claim 17**, Okuda discloses:

During a call between a user of the communication unit and another party, capturing speech audio from the user of the communication unit in a loopback path between an audio input module and an audio output module, wherein the loopback path presents speech audio received at the audio input module to the audio output module user to hear (*reduced sidetone signal captured and played to a calling party during a telephone conversation, Paragraph 0039 and 0044; and Fig. 3*); and

When the user of the communication unit is speaking at an undesired speaking rate, adjusting the speech audio from the user of the communication unit captured in the loopback path based upon a selectable rate variable to impose an adjusted speaking rate on the user of the communication unit (*setting a desired voice speed conversion in a loopback path, Paragraphs 0041-0042 and Fig. 3, Element 5, that would include the user's reduced sidetone signal. Since the teachings of Okuda meet the loopback required by the claimed invention, it would inherently flow naturally from the teachings of Okuda that a user would be imposed to adjust their conversation speaking rate because they would be hearing their rate-adjusted voice as is also recited in the claimed invention (i.e., claimed intended result that flows from the claimed loopback path with a rate adjustment).*)

Okuda further discloses method implementation as a program stored in a microcomputer (*Paragraph 0034*), which would inherently require some type of storage medium for program execution.

Claim 18 contains subject matter similar to claim 2, and thus, is rejected for the same reasons.

Claim 20 contains subject matter similar to claim 11, and thus, is rejected for the same reasons.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 3-4, 6-7, 19, and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuda et al in view of Rayskiy (*U.S. Patent: 6,278,387*).

With respect to **Claim 3**, Okuda discloses the telephone loopback path featuring voice speed adjustment, as applied to Claim 2. Although Okuda discloses time-scale modification (Paragraph 0041), Okuda does not explicitly recite that a pitch is maintained. Rayskiy, however, recites:

The speaking rate in the audio loopback path maintains a pitch of the speech audio received in the audio input module (*variable audio signal playback with no change in pitch, Col. 2, Lines 55-59; and Col. 6, Lines 5-22*).

Okuda and Rayskiy are analogous art because they are from a similar field of endeavor in speech rate conversion. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Okuda with the SOLA function that maintains pitch while performing a speech rate adjustment taught by Rayskiy in order to provide

Art Unit: 2626

a means for enabling variable playback of audio signals without a depreciation in speech quality (*Rayskiy, abstract*).

With respect to **Claim 4**, Okuda further discloses:

User interface for selectively adjusting the selectable rate variable (*user control unit for setting a voice speed, Paragraph 0034*).

With respect to **Claim 6**, Rayskiy further discloses:

The audio loopback path presents audio at a loopback rate through a SOLA (Synchronized Overlap and Add) function (*time scaling of an audio signal using SOLA, Col. 6, Lines 5-22*).

With respect to **Claim 7**, Rayskiy further discloses:

A memory location to store a rate variable for a given user (*user rate adjust unit that would inherently require some type of storage of a user-selected playback rate in order to process audio samples, Col. 3, Lines 11-29*).

Claim 19 contains subject matter similar to claim 3, and thus, is rejected for the same reasons.

Claim 22 contains subject matter similar to claim 6, and thus, is rejected for the same reasons.

10. **Claims 5 and 8-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuda et al in view of Rayskiy and further in view of Klejin (*U.S. Patent: 5,717,823*).

With respect to **Claims 5**, Okuda in view of Rayskiy discloses the means for audio rate adjustment as applied to Claim 3. Okuda in view of Rayskiy does not specifically suggest

receiving audio and a rate variable set from a second audio handset, however Klejin recites receiving, at a first telephone, speech and rate setting information that originates from a different telephone (*Col. 11, Line 45- Col. 12, Line 31*).

Okuda, Rayskiy, and Klejin are analogous art because they are from a similar field of endeavor in speech rate conversion. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Okuda in view of Rayskiy with the speech and rate setting receiving means taught by Klejin in order to achieve device implementation in a practical consumer communication environment (*Klejin, Col. 11, Lines 45-65*).

With respect to **Claim 8**, Klejin further discloses:

The audio output module further comprises a vocoder for detecting a word rate in the audio loopback path using: an energy decision metric, a voicing decision metric, or a tonality measure (*word rate detection in a vocoder using extracted speech parameters indicative of energy and voicing decision metrics, Col. 7, Lines 33-47; and Col. 9, Lines 22-48*).

With respect to **Claim 9**, Rayskiy discloses the rate adjustment storage as applied to Claim 7, while Klejin discloses the means for word rate detection as applied to Claim 8.

11. **Claims 14-16 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Okuda et al in view of Klejin (*U.S. Patent: 5,717,823*).

With respect to **Claim 14**, Okuda discloses the means for audio rate adjustment as applied to Claim 10. Okuda does not specifically suggest receiving audio and a rate variable set from a second audio handset, however Klejin recites receiving, at a first telephone, speech and

Art Unit: 2626

rate setting information that originates from a different telephone (*Col. 11, Line 45- Col. 12, Line 31*).

Okuda and Klejin are analogous art because they are from a similar field of endeavor in speech rate conversion. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Okuda with the speech and rate setting receiving means taught by Klejin in order to achieve device implementation in a practical consumer communication environment (*Klejin, Col. 11, Lines 45-65*).

With respect to **Claim 15**, Klejin further discloses:

The audio output module further comprises a vocoder for detecting a word rate in the audio loopback path using: an energy decision metric, a voicing decision metric, or a tonality measure (*word rate detection in a vocoder using extracted speech parameters indicative of energy and voicing decision metrics, Col. 7, Lines 33-47; and Col. 9, Lines 22-48*).

With respect to **Claim 16**, Okuda discloses the rate adjustment storage as applied to Claim 12, while Klejin discloses the means for word rate detection as applied to Claim 15.

Claim 21 contains subject matter similar to Claim 14, and thus, is rejected for the same reasons.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

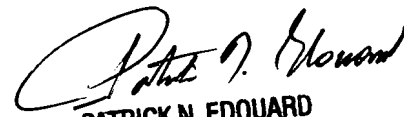
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached at (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak
9/20/2007



PATRICK N. EDOUARD
SUPERVISORY PATENT EXAMINER